Supplementary Online Content


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eAppendix. Telephone CPR QI Program Data Dictionary

This supplementary material has been provided by the authors to give readers additional information about their work.
Telephone CPR QI Program

Data Dictionary
Dispatch Location

Definition:
- This is the location of the agency that dispatched the call.

Instruction for Coding/Data Entry:
- Choose appropriate location from drop-down field that corresponds to the Case/Incident #.

Field Values:
- Default: blank

Field Validation:
- Cannot remain blank.
Dispatcher ID

Definition:
- Dispatcher ID

Instruction for Coding / Data Entry:
- Enter available ID

Field Value:
- Default: blank
Dispatcher First Name/Last Name

Definition:
- Dispatcher’s first and last name

Instruction for Coding/Data Entry:
- Enter available first and last name in respective field.

Field Value:
- Default: blank
Date of Call

Definition:
- The date at which the call was made to 9-1-1.

Description:
- This date is obtained from the Code Document if not pre-filled on the Review Form.
- The date in MM/DD/YYYY format (ex: 10/13/2012).

Instruction for Coding/Data Entry:
- If not pre-filled, select the date (MM/DD/YYYY) from the drop down field that corresponds to the correct Case/Incident # in the Code Document.
- ND – (Not Documented) if there is no date available (ND/blank/blank).
- NA – Not Applicable (NA/blank/blank)

Field Values:
- Default: pre-filled with date corresponding to Case/Incident #.
- ND/blank/blank
- NA/blank/blank
- System only allows values provided in drop down field.

Field Validation:
- Cannot remain blank.
- No future dates will be accepted.
Definition:
- The time of day that dispatch received the call.

Description:
- This information is obtained in the corresponding Code Document.
- Located in the column titled ‘Entered’

Instruction for Coding/Data Entry:
- Select the time (HH:MM) from the drop down field that corresponds to the correct Case/Incident # in the Code Document.
- ND – (Not Documented) if there is no time available.
- NA – Not Applicable

Field Values:
- Default: blank:blank
Transfer Location

Definition:
- Location/Agency from which the call was transferred to EMS/medical dispatch (Fire Department).

Instruction for Coding/Data Entry:
- Select appropriate transfer location from drop down field.

Field Values:
- Default: blank
- System only allows transfer locations provided in the drop down field.
Case/Incident #

Definition:
- The number (usually 8 integers) that corresponds to a recording, patient, and event location.

Description:
- The Case/Incident # is what links the recording to the appropriate patient and event information, and is vital that the number is entered accurately.

Instruction for Coding/Data Entry:
- If not pre-filled, enter the number using integers (0-9) (ex: 98765432)

Field Value:
- Default: pre-filled when creating a New Dispatch Call after searching for the Case/Incident #.

Field Validation:
- Cannot remain blank
Incident Address

Definition:
• The street address where the incident/event occurred/EMS is dispatched.

Description:
• This field is pre-filled when should match
• If the incident address is different than the report address in the recording:
  o There may be more than one call on the selected recording.
  o Check the Code Document to verify and alter the incident address.

Instruction for Coding/Data Entry:
• If not pre-filled, obtain from the Code Document using the Case/Incident # to find the correct address.

Field Value:
• Default: pre-filled when creating a New Dispatch Call after searching for the Case/Incident #.

Field Validation:
• Cannot remain blank.
• System will not accept changes to the incident address unless entire review is valid.
City

Definition:
- The city where the incident/event occurred.

Description:
- See Incident Address

Instruction for Coding/Data Entry:
- If not pre-filled, obtain from the Code Document using the Case/Incident # to find the correct city.

Field Value:
- Default: pre-filled when creating a New Dispatch Call after searching for the Case/Incident #.

Field Validation:
- Cannot remain blank.
- System will not accept changes to the incident address unless entire review is valid.
Definition:
- This is the time in MM:SS when audio is first evident in a recording.

Description:
- Audio is evident when a dispatcher first addresses an incoming call or a transferring dispatcher first addresses the dispatcher receiving the transfer.

Field Value:
- Default: 00:00 (MM:SS)
- NA: blank
- U: blank

Field Validation:
- Cannot remain blank
- System only allows values provided in the drop down field.
Transfer Call?

Definition:
- Was the call transferred from a third party to the dispatcher during the recording?

Description:
- There are various types of agencies that transfer calls to 9-1-1 dispatch (police departments, medical alert companies, other dispatchers, etc.).
- When there is a transfer call the agency transferring the call to dispatch will often introduce the event or caller to dispatch prior to dispatch communicating with the caller.

Instruction for Coding/Data Entry:
- Not Applicable
- Unknown:
  - There was dialogue between dispatch and a third party before dispatch addressed the caller but is unclear if it was a transfer.
  - The recording begins in the middle of a call (i.e. the recording is fragmentary); it is unknown if this call was a transfer call.
- Yes: The call was transferred to dispatch.
- No: The call was not transferred to dispatch.

Field Value:
- Default: Not Applicable
Timestamp to Dispatch first addresses Caller

Definition:
- The time measure when the dispatcher first addresses the caller.

Description:
- If the call is coded ‘Yes’ as a Transfer Call, note in minutes and seconds the time elapsed from the start of the recording (time 00:00 in Apple QuickTime window) to the moment when the dispatcher from the Dispatch Agency first addresses the caller.
- This is usually, but not exclusive to, when dispatch says to the caller, “Fire Department, what is the address of your emergency?”
- Record the time measure regardless if the caller is inattentive to dispatches first address.
- If the QI views an excess of inattentiveness from the caller at this point, the delay should be documented in the Barriers to CPR portion of the Review Form.

Instruction for Coding/Data Entry:
- Select time from the drop down field, in both minute and second field (MM:SS), in which dispatch first address caller (ex: 00:02).
- NA (Not Applicable): Select from the drop down field if dispatch does not address the caller in the call.
- U (Unknown): The timestamp is unknown when the recording begins after the call has begun and can be selected from the drop down field.

Field Value:
- Default: blank

Field Validation:
- Cannot remain blank.
- System only allows variables provided in the drop down field.
Definition:
- Was the recording complete, or did any gaps, cuts, or skips present in the recording obstruct the QI from recording accurate data points?

Description:
- If there were a crucial piece of the call missing (ex: recording skips from dispatch receiving the incident address to dispatch giving CPR instructions) from the recording, the timestamps taken in the latter portion of the recording are not accurate or true. However, if the obstruction is in the latter end of the recording, timestamps may be recorded accurately until obstruction occurs.
- Code ‘Yes’ if fragmentary recording obstructed the review.

Instruction for Coding/Data Entry:
- Yes: The recording was fragmented and obstructed the review of the call.
- No: The recording was not fragmented and did not obstruct the review.

Field Value:
- Default: blank

Field Validation:
- Cannot remain blank.
- System only allows variables provided in the drop down field.
QI knows CPR is Indicated?

Definition:
- Is the QI aware that the patient is in need of CPR/compressions?

Description:
- The QI knows CPR is indicated if the patient is reported or determined to be (1) unresponsive or unconscious and (2) not breathing normally.
  1) Unresponsive/unconscious: The patient is considered unresponsive or unconscious if the caller reports the patient to be as such, or the QI infers such information from events during the call. The QI may infer the patient is unconscious if:
   a. The caller, while in close proximity to the patient, repeatedly shouts the patient’s name without signs of the patient responding.
   b. The patient has been put on hard flat surface per dispatch’s instruction without signs of responsiveness and the caller does not report the patient as responsive.
   c. The patient has no response to pain stimuli (sternal rub, trapezius/armpit pinch, supraorbital pressure, etc.).
   d. The caller reports that the patient can’t/won’t speak/respond; this indicates the patient is most likely not conscious.
   e. The caller reports the patient “won’t wake up.”
  2) Breathing Normally: The patient is considered to be breathing normally if the caller reports the victim is breathing normally. The patient is considered to be not breathing normally if the caller reports the patient is not breathing, the caller describes abnormal breathing, or the QI hears agonal/abnormal respiration and/or identifies it through the caller’s description of the patient’s breathing.

Instruction for Coding/Data Entry:
- Not Applicable: Default variable. This should be reserved for calls where CPR’s indication is found to be not applicable.
- Unknown: The QI is unable to determine, with certainty, that CPR is indicated or not indicated.
- Yes: QI has determined that CPR is indicated.
- No: QI has determined CPR in not indicated.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain as Not Applicable
Dispatcher knows CPR is Indicated?

Definition:
- Does the dispatcher indicate his/her awareness that the patient is in need of CPR/compressions?

Description:
- CPR ‘key words’: A dispatcher indicates their recognition when they express the need for any of the following in connection with a response to the patient’s condition: “Cardiopulmonary Resuscitation,” “CPR,” “chest compressions,” “compressions,” “continuous chest compressions,” “Hands-Only CPR,” “CCR,” “rescue breaths,” “rescue breathing,” “ventilations,” or “rescue ventilations” (CPR keywords).
- A dispatcher does not know that CPR is indicated if they solely say that CPR may be necessary if a patient is not breathing, not breathing normally, or under other parameters.
- The dispatcher also knows CPR is indicated when:
  - The dispatcher asks the caller if they are willing or able to do CPR.
  - The dispatcher asks the caller if CPR is in progress.

Instruction for Coding/Data Entry:
- Not Applicable: Default variable. This should be reserved for calls where CPR’s indication is found to be not applicable.
- Unknown: If a caller clearly states to the dispatcher that CPR is in progress and dispatcher confirms without using the CPR ‘key words’.
- Yes: Dispatcher has determined that CPR is indicated.
- No: QI has determined CPR in not indicated.
- Not Understandable: The communication during the call was not understandable enough to determine if CPR was indicated.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain Not Applicable
CPR In Progress?

Definition:
- Was CPR already in progress when the call was received?

Description:
- CPR is considered to be in progress if the caller reports CPR has been initiated prior to the start of the call and is currently still in progress.
- A caller may indicate that CPR has been started after the start of a call but prior to the dispatcher providing any form of CPR instructions. In such a case CPR has been started independently during the call. (See “CPR started independently during the call?”)
- CPR is not considered to be in progress if CPR was reported to have started but ceased before the start of the call.
  - The caller may state CPR was attempted but was stopped before the start of the call. In this situation, CPR is not in progress.

Instruction for Coding/Data Entry:
- Not Applicable: Default variable. This should be reserved for calls where CPR is found to be not applicable.
- Unknown: If it is unclear whether CPR was in progress prior to the start of call or not.
- Yes: CPR is in progress prior to the start of the call.
- No: CPR is not in progress prior to the start of the call.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain Not Applicable
CPR Instructions Started?

Definition:
- Did the dispatcher start CPR instructions during the call?

Description:
- Instruction is considered to have started if any CPR instruction (initiation of chest compressions or rescue breaths), whether complete or incomplete, is given to the caller.
- CPR instructions do not include airway assessment(s).
- Instruction may include dispatch requesting the caller/rescuer to “kneel by the patient’s side” only if CPR instruction commences immediately after.
- Common dispatch-delivered CPR instructions given to the caller include, but are not limited to:
  - Kneel next to the patient (or similar positioning request); contingent on the immediate start of at least one of the following instructions:
    1. Place the heel of one hand on the patient’s chest in between their nipple line.
    2. Place the other hand on top of the first; interlock fingers.
    3. Lock the elbows.
    4. Push straight down at least 2 inches deep and at a rate of 100 compressions per minute (“hard” and “fast”) allowing the chest to rise after each compression.
    5. If/when the rescuer becomes tired, switch with another bystander to continue compressions until EMS arrives.

Instruction for Coding/Data Entry:
- Not Applicable: Default variable. This should be reserved for calls where CPR instruction is found to be not applicable.
- Unknown: If it is unclear whether CPR instruction was started or not.
- Yes: CPR instruction was started at some point within the call.
- No: CPR instruction was not started at some point within the call.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain Not Applicable
Were Compressions Started?

Definition:
- Were compressions started by the caller/bystander (not EMS) within the duration of the call?

Description:
- Compressions are considered to have started when/if the rescuer has delivered any compressions during the call, regardless whether the rescuer stops compressions.
- Compressions are considered started if:
  - The rescuer states that s/he has started compressions.
  - The rescuer begins counting the compressions s/he is giving (i.e., “one, two, three, four…”)
  - Audible indications such as grunting or panting signal the start of compressions to the QI

Instruction for Coding/Data Entry:
- Not Applicable: Default variable. This should be reserved for calls where CPR is found to be not applicable.
- Unknown: If it is unclear whether compressions were started or not.
  - This happens with high frequency and is important to be differentiated from both ‘Yes’ and ‘No’.
- Yes: Compressions were started at some point within the call.
- No: Compressions were not started at some point within the call.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain Not Applicable
<table>
<thead>
<tr>
<th>PATIENT</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Age (Numeric, C/Child, A/Adult)</td>
<td>Conscious</td>
<td>Breathing Normally?</td>
<td>Agonals Heard?</td>
<td>Timestamp</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Agonals Described?</td>
<td>Timestamp</td>
<td>Agonals Description</td>
<td>Other Agonal Description</td>
<td>Patient Status Change?</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>NA</td>
<td>Gasp</td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
Patient Age

Definition:
- A description of the patient’s age.

Description:
- The patient’s numeric age is considered to be one of the following:
  - The age given on the page found when creating a ‘New Dispatch Call’ (shown in image below). Located in the field titled ‘Age / Date of Birth’ is the patient’s age recorded by the dispatch agency.
  - The numeric age given by the caller (ex: 23, 49, 15, 60, 102, etc.)
  - The middle of the range given by the caller. For example, if the caller reported the patient to be between 50 and 60 years old, the QI will consider the patient to be 55 years old.
  - If the caller reports the patient’s age in months less than 12 (i.e. patient is an infant) the age is entered as 0. Likewise, a reported age of 18 months is recorded as 1 year old, and so on.
- If a patient’s numeric age is unavailable, the patient may also be considered to be either a child or an adult if the QI finds it to be certain.
- However, the patient’s age is not always available. If the patient’s age is not available on the page when creating a ‘New Dispatch Call’ (shown in the image above), given numerically by the caller, or determined by the QI to be a child or an adult, the patient’s age is considered unknown.
- If there are discrepancies in the ages given at these different patient data points, the QI’s best judgment should be used to conclude the most reasonable age given with regards to the happens in the recording (e.g. the age listed on the webpage is 32 years old but during the call the caller reports the patient to be an infant).

Instruction for Coding/Data Entry:
- Numeric entry (integers from 1-120): The numeric age in years of the patient.
- 0 (zero): The patient is known to be less than one year of age.
- C: The patient is known to be a child (age 17 and younger) but the numeric age of the patient is unknown to the QI.
- A: The patient is known to be an adult (age 18 and older) but the numeric age of the patient is unknown to the QI.
- U: The patient’s age is unknown to the QI.

Field Value:
- Default: blank.

Field Validation:
- Cannot remain blank.
- System only allows variables provided in the drop down field.
Conscious

Definition:
- This variable determines whether, by the end of the call or recording, the patient has been found to be conscious.

Description:
- A patient is considered conscious if the caller reports the patient is conscious and/or responsive to the caller.
- A patient is considered not conscious if the caller reports the patient is not conscious and/or is not responsive to the caller.
- **Responsive/conscious:** The patient is considered responsive or conscious if the caller reports the patient to be as such, or the QI infers such information from events during the call. The QI may infer the patient is conscious if:
  - The caller seems to be talking with the patient (asking the patient questions or simply conversing).
  - The caller is the patient.
- **Unresponsive/unconscious:** The patient is considered unresponsive or unconscious if the caller reports the patient to be as such, or the QI infers such information from events during the call. The QI may infer the patient is unconscious if:
  - The caller, while in close proximity to the patient, repeatedly shouts the patient’s name without signs of the patient responding.
  - The patient has been put on hard flat surface per dispatch’s instruction without signs of responsiveness and the caller does not report the patient as responsive.
  - The patient has no response to pain stimuli (sternal rub, trapezius/armpit pinch, supraorbital pressure, etc.)
  - The caller reports that the patient can’t/won’t speak/respond; this indicates the patient is most likely not conscious.
  - The caller reports the patient “won’t wake up.”
- If the patient cannot be determined to be conscious or not,

Instruction for Coding/Data Entry:
- Yes: The patient is concluded to be conscious to the QI.
- No: The patient is concluded to be not conscious to the QI.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.
- Unknown: The QI cannot establish the patient’s consciousness during the call/recording.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain as Not Applicable
Breathing Normally?

Definition:
- Has the patient been reported, or the QI determined, the patient is breathing normally?

Description:
- A patient’s breathing status is a key indicator of whether he or she is in cardiac arrest.
- The patient is considered to be breathing normally if the caller reports the victim is breathing normally.
- The patient is considered to be not breathing normally if:
  - The caller reports the patient is not breathing normally or not breathing.
  - The caller reports agonal/abnormal breathing.
  - The QI hears agonal/abnormal breathing.
  - The QI identifies abnormalities through the caller’s description of the patient’s breathing.
- Abnormal breathing is defined as breathing with a rate and/or character different from the patient’s normal breathing at rest (within the scope of the QI suspecting cardiac arrest, normal breathing is one ordinary breath every 3-5 seconds).
- Agonal respirations originate from lower brainstem neurons as higher centers become increasingly hypoxic during cardiac arrest. No single layperson descriptor consistently identifies agonal respirations; rather, laypersons use a collection of terms to describe the abnormal breathing of agonal respirations.
  - Caller-reported or QI-identified breathing descriptions that are considered agonal include, but are not limited to:
    - Gasping
    - Gurgling
    - Gargling
    - Snoring
    - Snorting
    - Humming
    - Moaning
    - Groaning
    - Breathing every once and awhile
    - Shallow breathing
    - Heavy
    - Labored
    - Noisy
- It can be difficult to get a clear answer on whether the patient is breathing normally or not. Often, when dispatch asks if the patient is breathing, the caller will hesitate to answer confidently. Instead, the caller reports that they cannot tell if the patient is breathing, or they may misinterpret the patient’s agonal respirations for effective breaths and signs of life; this may ultimately mislead the dispatcher’s judgment of the patient’s condition and emergency medical needs. It is important for the QI to consider all descriptions and audible sounds of the patients breathing when determining whether it is normal or not, even if the caller reports the patient is breathing.

Instruction for Coding/Data Entry:
- Yes: The patient is breathing normally.
- No: The patient is not breathing normally.
- Not Understood: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.
- Unknown: The QI cannot establish the patient’s breathing status during the call/recording.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain Not Applicable
Agonals Heard?

Definition:
- Are agonal respirations audible from the patient during the call?

Description:
- Sounds that may be considered agonal are those made solely by the patient during a suspected cardiac arrest, have descriptive characteristics of agonal reparations, and/or are directly heard by the QI through the recording.
- In relation to the patient’s breathing, during a suspected cardiac arrest, descriptions of these sounds include, but are not limited to:
  - Gasping
  - Gurgling
  - Gargling
  - Snoring
  - Snorting
  - Humming
  - Moaning
  - Groaning
  - Shallow breathing
  - Heavy
  - Labored
  - Noisy
  - Breathing every once and awhile
- It is worth mentioning that any individual may make these respiratory sounds without the respirations being agonal. Within the parameters of reviewing these recordings, patient breaths may only be considered agonal if the QI suspects cardiac arrest (e.g. if the patient is responsive/conscious and gasping, this does not make the gasping an agonal respiration; the QI should not suspect cardiac arrest if the patient is responsive/conscious).

Instruction for Coding/Data Entry:
- Yes: The QI directly hears signs of agonal breathing from the patient.
- No: The QI does not directly hear signs of agonal breathing from the patient.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.
- Unknown:
  - The QI suspects the described or audible sounds are agonal breaths but CPR’s indication remains unknown.
  - The QI cannot establish whether the agonal-like sounds are coming from the patient.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain as Not Applicable
Agonals Described?

Definition:
- Were the caller’s descriptions regarding the patient’s breathing determined to be agonal respirations?

Description:
- Agonals are described if the caller uses words found to be descriptors of agonal reparations when reporting the patient’s breathing.

Instruction for Coding/Data Entry:
- Yes: The caller described agonal respirations.
- No: The caller did not describe agonal respirations.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.
- Unknown: The caller described agonal-like respirations The QI suspects the described or audible sounds are agonal breaths but CPR’s indication remains unknown.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain Not Applicable
Definition:
- Descriptions of agonal breathing the caller may use to describe the patient’s breathing.

Description:
- This variable is contingent on there being agonals described.
- The agonal descriptions are selected based on the words spoken by the caller, not the dispatcher.
- Select all agonal descriptors that apply the caller uses when referring to the patient’s agonal respiration.

Instruction for Coding/Data Entry:
- Select all agonal descriptors that apply.
- To select multiple descriptors hold the command key while selecting the addition agonal description(s).

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot be remain Not Applicable
- Both ‘Other’, from the ‘Agonals Description’, and the ‘Other Agonal Description’ field must be selected and filled respectively for the system to accept as valid.
Other Agonal Description

Definition:
- Description(s) the caller used to report the patient’s agonal respirations not listed in the ‘Agonals Description’ field.

Description:
- This variable is contingent on there being agonals described.
- If the descriptors used by the caller are not available from the provide list, the QI briefly writes the description(s) used by the caller.

Instruction for Coding/Data Entry:
- The QI writes a brief description of the language used by the caller when describing the patient’s agonal respiration.

Field Value:
- Default: blank

Field Validation:
- Both ‘Other’, from the ‘Agonals Description’, and the ‘Other Agonal Description’ field must be selected and filled respectively for the system to accept as valid.
Patient Status Change?

Definition:
- Has the patient’s status changed within the duration of the call?

Description:
- Examples of patient status changes include, but are not limited to:
  - The patient’s status is established to be breathing/breathing normally by either the QI or by reports from the caller during the call then is established to be not breathing/not breathing normally (or the reverse occurs).
  - The patient’s status is established to be responsive/conscious by either the QI or by reports from the caller during the call then is established to be nonresponsive/not conscious (or the reverse occurs).

Instruction for Coding/Data Entry:
- Yes: The patient’s status has changed during the call.
- No: The patient’s status has not changed during the call.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.
- Unknown: It is unknown if the patient’s status has changed.
  - Examples of a change in the patient’s status being unknown include, but are not limited to:
    - The caller is not with the patient during the call.
    - Dispatch and caller is disconnected before patient’s status could be determined.
    - The call is fragmentary to such a degree that patient’s status is inconclusive to the QI.

Field Value:
- Default: Not Applicable

Field Validation:
- Cannot remain Not Applicable
## Time Measures

<table>
<thead>
<tr>
<th>Time Measure</th>
<th>Timestamp Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timestamp QI Recognized need for CPR</td>
<td></td>
</tr>
<tr>
<td>Timestamp to first rescue breaths</td>
<td></td>
</tr>
<tr>
<td>If Secondary Breathing Assessment</td>
<td></td>
</tr>
<tr>
<td>Timestamp dispatch recognized need for CPR</td>
<td></td>
</tr>
<tr>
<td>Timestamp dispatch began instructions</td>
<td></td>
</tr>
<tr>
<td>Timestamp Dispatcher began instructions</td>
<td></td>
</tr>
<tr>
<td>Timestamp to first compressions</td>
<td></td>
</tr>
<tr>
<td>Timestamp to End Assessment</td>
<td></td>
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<tr>
<td>Timestamp to End Assessment</td>
<td></td>
</tr>
<tr>
<td>Timestamp to end of call</td>
<td></td>
</tr>
</tbody>
</table>
Definition:
- The timestamp in the recording where the QI recognizes that the patient is nonresponsive/unconscious and not breathing normally, and needs CPR.

Description:
- The QI recognizes CPR when the patient is reported or determined to be (1) unresponsive or unconscious and (2) not breathing normally.
  1) **Unresponsive/unconscious:** The patient is considered unresponsive or unconscious if the caller reports the patient to be as such, or the QI infers such information from events during the call. The QI may infer the patient is unconscious if:
     a. The caller, while in close proximity to the patient, repeatedly shouts the patient’s name without signs of the patient responding.
     b. The patient has been put on hard flat surface per dispatch’s instruction without signs of responsiveness and the caller does not report the patient as responsive.
     c. The patient has no response to pain stimuli (sternal rub, trapezius/armpit pinch, supraorbital pressure, etc.)
     d. The caller reports that the patient can’t/won’t speak/respond; this indicates the patient is most likely not conscious.
     e. The caller reports the patient “won’t wake up.”
  2) **Breathing Normally:** The patient is considered to be breathing normally if the caller reports the victim is breathing normally. The patient is considered to be not breathing normally if the caller reports the patient is not breathing, the caller reports abnormal breathing, or the QI hears agonal/abnormal respiration and/or identifies it through the caller’s description of the patient’s breathing.

- While listening to the recording, pause the Apple QuickTime player at the time CPR is recognized; this is the timestamp that is needed.

Instruction for Coding/Data Entry:
- Record the timestamp as it appears on the Apple QuickTime window.
- U: The QI recognizes the need for CPR but is unsure of the timestamp time.
- NA: The QI did not recognize the need for CPR or it is unknown to the QI if CPR is indicated.

Field Value:
- Default: blank:blank

Field Validation:
- The field cannot remain blank:blank
Definition:
- The timestamp in the recording when dispatch first requests the caller to place the patient on their back from their current position.

Description:
- The two most common reasons dispatch will request the patient be placed on their back is in order to get a breathing assessment of the patient and/or to administer chest compression/CPR.
  - **Breathing assessment:** Having the patient on their back allows the caller to assess the airway or see if the patient’s chest is rising and falling. This is often used to determine breathing status if the caller has difficulty assessing the patient’s breathing.
  - **Compressions/CPR:** Compressions are most effective when the patient is on a hard, flat surface. Compressions administered in bed are significantly less effective than compressions administered on a hard, flat surface, such as the floor.
- Dispatch requests patient be placed on back either as a command or as a question.
- Requests may include, but is not limited to:
  - Getting the patient on their back.
  - Getting the patient to the floor/ground/hard, flat surface.

Instruction for Coding/Data Entry:
- Record the timestamp as it appears on the Apple QuickTime window.
- **U:** Timestamp is unknown to the QI. This may occur with fragmented or poor audio quality.
- **NA:** The dispatch did not request the patient to be place on their back.

Field Value:
- **Default:** blank:blank

Field Validation:
- **Cannot remain** blank:blank
Definition:
- The timestamp in the recording when dispatch recognized that the patient needs compressions/CPR based on the descriptions given by the caller.

Description:
- Dispatch recognized the need for CPR when dispatch:
  - Tells the caller to begin CPR/compressions.
  - Asks the caller if they would be willing to do compressions.
  - Begins CPR instruction.
  - Asks the caller if CPR has been started.
- However, dispatch only recognizes the need for CPR when on a non-contingency basis. For example, if during call, where cardiac arrest is suspected, dispatch comments that the patient will need CPR if they are not breathing or if they are not responding, dispatch has not recognized the need for compressions at this point.

Instruction for Coding/Data Entry:
- Record the timestamp as it appears on the Apple QuickTime window.
- U: The timestamp is unknown to the QI. This may occur with fragmented or poor audio quality.
- NA: The dispatch did not request the patient to be place on their back.

Field Value:
- Default: blank:blank

Field Validation:
- Cannot remain blank:blank
Definition:
- The timestamp in the recording when the dispatcher began giving instructions to the caller for preforming compressions/CPR.

Description:
- No matter the order given or whether the instruction is complete or not, if any of the instructions listed below, or those which are synonymous, are given to the caller by dispatch, instruction has began and the timestamp should be recorded:
  - Kneel next to the patient (or similar positioning request); contingent on the immediate start of at least one of the following or synonymous instructions:
    1. Place the heel of one hand on the patient’s chest in between their nipple line.
    2. Place the other hand on top of the first; interlock fingers.
    3. Lock the elbows.
    4. Push straight down at least 2 inches deep and at a rate of 100 compressions per minute (“hard” and “fast”) allowing the chest to rise after each compression.
    5. If/when the rescuer becomes tired, switch with another bystander to continue compressions until EMS arrives.
- CPR instructions do not include airway assessment(s).

Instruction for Coding/Data Entry:
- Record the timestamp as it appears on the Apple QuickTime window.
- U: The timestamp is unknown to the QI.
- NA: The dispatch did not begin instruction.

Field Value:
- Default: blank:blank

Field Validation:
- Cannot remain blank:blank
**Definition:**
- The timestamp in the recording when the first compression was given to the patient by the rescuer.

**Description:**
- The timestamp to first compression is considered to be when:
  - The rescuer first begins counting the compressions s/he is giving (i.e., “one, two, three, four…”).
  - The first of any audible indications such as grunting or panting signal the start of compressions to the QI.

**Instruction for Coding/Data Entry:**
- Record the timestamp as it appears on the Apple QuickTime window.
- **U:** The timestamp to first compression is unknown when:
  - Compressions were in progress.
  - Compressions were started during the call; however, the caller is not with the patient (often happens when patient is at a care facility).
  - The QI is unable to identify the timestamp of the first compression.
- **NA:** Compressions were not given.

**Field Value:**
- Default: blank:blank

**Field Validation:**
- Cannot remain blank:blank
Definition:
- The timestamp in the recording when the first rescue breath was given to the patient.

Description:
- Rescue breaths are considered any artificial ventilation given to the patient by a rescuer.
- Rescue breaths are not instructed for all circumstances.
- After rescue breaths are instructed by dispatch, the QI must:
  - Listen for sounds synonymous with rescue breaths.
  - Approximate the timestamp if enough information is available to infer accurately.

Instruction for Coding/Data Entry:
- Record the timestamp of the first rescue breath as it appears on the Apple QuickTime window.
- U: The timestamp to first rescue breath is unknown when:
  - Rescue breaths were given before the call.
  - It is unknown to the QI when the first rescue breath was given.
- NA: Rescue breaths were not given.

Field Value:
- Default: blank

Field Validation:
- Cannot remain blank
If secondary breathing assessment:

Definition:
- The start and end timestamps when the dispatcher instructs the caller to evaluate the breathing/airway for the second time.

Description:
- A breathing assessment, or airway check, is a procedural directive to include, but is not limited to:
  - Tilting the patient’s head back, lift the chin, and then check for signs of breathing. This may include:
    - Watch/feel for up and down movement in the patient’s chest.
    - Listen for breaths by placing the ear to the patient’s mouth.
- **Timestamp to Start Assessment:** When the dispatcher instructs the caller to check the patient’s airway.
- **Timestamp to End Assessment:** When then dispatch has made a determination about breathing status or has moved on from breathing assessment.

Instruction for Coding/Data Entry:
- Record the timestamps as they appear on the Apple QuickTime window for both Timestamp to Start Assessment and Timestamp to End Assessment.
- U: The timestamp is unknown to the QI.
- NA: There were no secondary breathing assessments.

Field Value:
- Default: NA:blank

Field Validation:
- Cannot remain blank:blank
Definition:
- The total time of the recording.

Description:
- Regardless if communication has ceased or one party has hung up the phone, this timestamp is to be the total time of the recording. Often this timestamp is not solely the end of the dispatcher-caller communication.

Instruction for Coding/Data Entry:
- Record the length of the recording as it appears on the Apple QuickTime window.

Field Value:
- Default: blank:blank

Field Validation:
- Cannot remain blank:blank
<table>
<thead>
<tr>
<th>Resuscitation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPR Started Independently During Call?</strong></td>
</tr>
<tr>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
CPR Started Independently During the Call?

Definition:
- Was CPR initiated during the call without CPR instructions from the dispatcher?

Description:
- CPR has started independently when it is known to the QI that CPR is not in progress at the start of the call, but is started prior to the dispatcher providing any form of CPR instructions (see: CPR Instructions Started?).

Instruction for Coding/Data Entry:
- Yes: CPR was started independently during the call.
- No: CPR was not started independently during the call.
- Unknown: It is unknown to the caller if CPR was started independently during the call.
- Not Applicable: CPR was not given.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Was Caller the Rescuer?

Definition:
- Is the caller and rescuer the same person during CPR or attempted CPR?

Description:
- This variable seeks to determine whether the rescuer and caller are the same person during instruction and or CPR.
- The caller and rescuer are the same person when, but is not limited to:
  - The person directly telecommunicating with dispatch is attempting CPR on the patient (this includes speakerphone communication).
  - The caller puts down the phone to attempt CPR.

Instruction for Coding/Data Entry:
- Not Applicable: CPR was not attempted.
- Unknown: It is unknown to the QI if the caller and the rescuer are the same individual.
- Yes: The caller and rescuer is the same individual.
- No: The caller and rescuer are two separate individuals during the attempted CPR.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Rescuer Knows Bystander CPR?

Definition:
- Does the QI suspect the rescuer knows bystander CPR?

Description:
- The rescuer is considered to know CPR when, but is not limited to:
  - Dispatch is informed that the rescuer knows bystander CPR.
  - The rescuer professes knowledge of CPR prior to instruction from dispatch.
  - The rescuer is a trained professional (i.e., police, fire, EMS personnel, physician, or nurse).

Instruction for Coding/Data Entry:
- Not Applicable: CPR was not attempted.
- Unknown: It is unknown to the QI whether the rescuer knows bystander CPR.
- Yes: It has been made clear to the QI that the rescuer knows bystander CPR.
- No: It has been made clear to the QI that the rescuer does not know bystander CPR.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Unknown

Field Validation:
- None
Rescuer was?

Definition:
- Was the rescuer a trained professional or a layperson?

Description:
- Trained professionals include police, fire department, EMS personnel, physicians, and nurses.

Instruction for Coding/Data Entry:
- NA: CPR was not attempted.
- Professional: The rescuer is a trained professional.
- Lay: The rescuer is not a trained professional.
- Unknown:

Field Value:
- Default: NA

Field Validation:
- None
Anyone Guide Ambulance?

Definition:
- Is there a bystander to guide the ambulance to the location of the patient?

Description:
- A person guiding an ambulance to a location is often referred to as a ‘flagger’. The flagger is an individual directing the ambulance from the road to the location of the patient.
- An ambulance is considered to have been guided if, but is not limited to:
  - The caller informs dispatch that there is a person waiting outside for the ambulance.
  - Dispatch instructs the caller to have another bystander guide the ambulance.

Instruction for Coding/Data Entry:
- Not Applicable: The call/recording did not necessitate an ambulance.
- Unknown: It is unknown to the QI if the ambulance was guided.
- Yes: There was someone guiding the ambulance.
- No: There was not someone guiding the ambulance.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Unknown

Field Validation:
- None
<table>
<thead>
<tr>
<th>dispatch_type</th>
<th>status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispatcher - Continuous Coaching?</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Dispatcher - Rate Coaching?</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Dispatcher - Depth Coaching?</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>If Mult. Rescuers, Coached to switch?</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Dispatcher Communication was:</td>
<td>NA</td>
</tr>
<tr>
<td>If Dispatcher was unclear, Comments:</td>
<td></td>
</tr>
</tbody>
</table>

**Dispatcher**
CPR Instruction was:

Definition:
- Did dispatch order/tell the caller to perform CPR or did dispatch ask the caller to perform CPR?

Description:
- If the dispatcher orders or directs the caller CPR at least once, then CPR instruction was told.
- A few examples of when CPR instruction is told are:
  - You need to start CPR.
  - We need to start compressions.
- A few examples of when CPR instruction is asked are:
  - Will you do CPR?
  - Are you willing to do compressions?
  - Does anyone know how to do compressions?

Instruction for Coding/Data Entry:
- NA: CPR Instructions were not given.
- Told: Dispatch orders the caller to perform CPR.
- Asked: Dispatch requests the caller to perform CPR.
- Unknown: It is unknown to the QI if CPR was told or asked.

Field Value:
- Default: NA

Field Validation:
- None
Dispatcher – Continuous Coaching?

Definition:
- Did the dispatcher provide CPR coaching until the end of call?

Description:
- Coaching includes, but is not limited to:
  - Counting aloud compression rate.
  - Repeating CPR/compression instructions.
  - Telling the rescuer they are doing a good job.
  - Advising multiple bystanders to take turns giving compressions.
  - Reminding the rescuer to push hard and fast.
- Continuous coaching is when the dispatcher actively coaches throughout the CPR process up until arrival of EMS.

Instruction for Coding/Data Entry:
- Not Applicable: CPR was not attempted.
- Unknown: It is unknown to the QI if dispatch continuously coach the rescuer.
- Yes: Dispatch did continuously coach the rescuer.
- No: Dispatch did not continuously coach the rescuer.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Dispatcher – Rate Coaching?

Definition:
- Did the dispatcher instruct an appropriate compression rate?

Description:
- Appropriate compression rate may be considered to be coached as:
  - 100 compressions per minute.
  - “Hard and fast” in the center of the patient’s chest.
- The dispatcher appropriately counts by continuously counting compressions with or for the rescuer at the appropriate rate.

Instruction for Coding/Data Entry:
- Not Applicable: CPR was not attempted.
- Unknown: It is unknown to the QI if an appropriate compression rate was instructed.
- Yes: Dispatch instructed an appropriate compression rate.
- No: Dispatch did not instruct an appropriate compression rate.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.
- Counted: Dispatch continuously counted compressions with or for the rescuer.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Dispatcher – Depth Coaching?

Definition:
- Did the dispatcher instruct an appropriate compression depth?

Description:
- Appropriate compression depth may be considered to be coached as:
  - At least 2 inches deep.
  - “Hard and fast” in the center of the patient’s chest.
  - “As hard as you can” in the center of the patient’s chest.

Instruction for Coding/Data Entry:
- Not Applicable: CPR was not attempted.
- Unknown: It is unknown to the QI if an appropriate depth was instructed.
- Yes: Dispatch instructed an appropriate compression depth.
- No: Dispatch did not instruct an appropriate compression depth.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
If Mult. Rescuers, Coached to switch?

Definition:
- If there are multiple bystanders present, did the dispatcher instruct the rescuers to switch out the person performing compressions?

Description:
- Multiple rescuers are coached to switch if the dispatcher recognized the presence of multiple bystanders and encourages the caller to let another rescuer take over compressions if and/or when the first rescuer tires.

Instruction for Coding/Data Entry:
- Not Applicable: CPR was not attempted.
- Unknown: It is unknown to the QI whether multiple rescuers were coached to switch.
- Yes: Dispatch recognized multiple bystanders and coached the rescuers to switch.
- No: Dispatch did not recognize multiple bystanders and did not coach rescuers to switch.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Dispatcher Communication was:

Definition:
- Was the dispatcher’s communication clear during the call?

Description:
- Examples of dispatcher clarity may include:
  - Attentive listening.
  - Clear CPR instructions.
  - Maintains a composed attitude.
- Examples of when the dispatcher is unclear may include:
  - Providing vague or ambiguous CPR instruction.
  - Seeming inattentive to the caller.
  - Getting upset or frustrated at the caller.

Instruction for Coding/Data Entry:
- NA: There was no caller-dispatcher communication present in the recording.
- Clear: The dispatcher-caller communication was clear.
- Unclear: The dispatcher-caller communication was not clear.
- Unknown: It is unknown to the QI whether the communication between the dispatcher and the caller was clear or unclear.

Field Value:
- Default: NA

Field Validation:
- None
If Dispatcher was Unclear, Comments:

Definition:
- If the dispatch was found to be unclear, comment on the how the dispatcher’s communication with the caller was unclear.

Description:
- Comments should include a brief explanation of how the dispatcher was unclear.
- If dialog is referenced, it should be written within quotation marks.

Instruction for Coding/Data Entry:
- Enter comments into the text field provided.
- If the dispatcher is not found to be unclear, leave text field blank.

Field Value:
- Default: blank

Field Validation:
- None
Caller Mental State

Definition:
- During the length of the call, which of the following best describes the caller’s mental state?

Description:
- The caller may experience numerous mental states during the emergency 9-1-1 call. It is important to interpret the caller’s mental state as a whole for the duration of the call; which of these attributes was most significant in the caller’s decision making?
- Parameters to keep in mind when considering the caller’s mental state:
  - **Calm**: The caller seemed relatively calm given the stressful circumstance. They were able to remain adequately composed with little distraction due to anxiety.
  - **Anxious**: The caller’s anxiety towards the situation caused a great deal of distraction and ultimately hindered the CPR process.
  - **Angry**: The caller displays anger towards the dispatcher or other bystanders.
  - **Non-compliant**: The caller is refusing the requests of the dispatcher.

Instruction for Coding/Data Entry:
- **NA**: There is no dispatch-caller communication to interpret caller’s mental state.
- **Calm**: The caller seems calm given the circumstance.
- **Anxious**: The caller seems anxious during the call.
- **Angry**: The caller seems angry during the call.
- **Non-compliant**: The caller is not compliant with the dispatcher’s requests.
- **Unknown**: The mental state of the caller is unknown.

Field Value:
- **Default**: NA

Field Validation:
- **None**
AED (Automated External Defibrillator): An AED is a portable device that assesses the heart rhythm of the patient and can administer shocks in an attempt to restore a normal heart rhythm.

As AED’s are most commonly dispersed within businesses, schools, care facilities, and other public buildings, this section seeks to collect the information on the use of AED’s. For that reason, this field is only to be complete when cardiac arrest is suspected to have occurred in a public setting. This field is not to be completed if the patient is a non-public place or private home.
Did dispatcher ask if AED was available?

Definition:
- Did the dispatcher recognize the patient is in public setting and ask the caller if an AED is available?

Description:
- Do not complete this section if the event is in a non-public setting.

Instruction for Coding/Data Entry:
- Not Applicable: The event is in a non-public setting, or cardiac arrest is not indicated.
- Unknown: It is unknown to the QI if the dispatcher asked if an AED was available.
- Yes: The dispatcher did ask if an AED was available.
- No: The dispatcher did not ask if an AED was available.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Did caller know what an AED was?

Definition:
- Did the caller seem to know what an AED was?

Description:
- A caller is considered not to know what an AED is if, but is not limited to:
  - The caller asks, “What is an AED?” Or an analogous question.
  - Responds with an answer not synonymous regarding the availability of an AED.

Instruction for Coding/Data Entry:
- Not Applicable: The event is in a non-public setting, or cardiac arrest is not indicated.
- Unknown: It is unknown to the QI if the caller knew what an AED was.
- Yes: The caller knew what an AED was.
- No: The caller did not know what an AED was.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Did the AED question cause confusion?

Definition:
- When the dispatcher asked whether an AED was available, did the caller seem confused by the question?

Description:
- Confusion may be considered if the AED question causes some delay in focused communication or while clarifying.

Instruction for Coding/Data Entry:
- Not Applicable: The event is in a non-public setting, or cardiac arrest is not indicated.
- Unknown: It is unknown to the QI if the AED question caused confusion.
- Yes: The AED question did cause confusion.
- No: The AED question did not cause confusion.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Did the AED question lead to a delay?

Definition:
- Did asking about an AED significantly slow the CPR process?

Instruction for Coding/Data Entry:
- Not Applicable: The event is in a non-public setting, or a cardiac arrest is not indicated.
- Unknown: It is unknown to the QI if the AED question caused a delay.
- Yes: The AED question caused a delay.
- No: The AED question did not cause a delay.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording

Field Value:
- Default: Not Applicable

Field Validation:
- None
Definition:
- Mark the timestamp at which the delay from the question begins.

Description:
- If the AED question caused a delay, the start of the delay is to be considered to begin with the caller’s response to the AED question.

Instruction for Coding/Data Entry:
- NA: A delay from the AED question did not occur.
- U: The timestamp to start of delay from the AED question is unknown to the QI.
- Input timestamp

Field Value:
- NA: blank

Field Validation:
- Cannot remain blank: blank.
Definition:
- The timestamp at which the delay from the question ends.

Description:
- If the AED question caused a delay, the end of the delay is to be considered to when actions or communication resume regards to the patient’s status or CPR instruction.

Instruction for Coding/Data Entry:
- NA: A delay from the AED question did not occur.
- U: The timestamp to end delay from the AED question is unknown to the QI.
- Input timestamp

Field Value:
- NA: blank

Field Validation:
- Cannot remain blank: blank.
Was an AED available?

Definition:

- Was it made known an AED is available?

Description:

- This also includes incidents where the availability of an AED was unsolicited by the dispatcher.

Instruction for Coding/Data Entry:

- Not Applicable: The event is in a non-public setting, or a cardiac arrest is not indicated.
- Unknown: It is unknown to the QI if the AED question caused confusion.
- Yes: An AED was available.
- No: An AED was not available.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:

- Default: Not Applicable

Field Validation:

- None
Was an AED used?

Definition:
- Was the AED placed on the patient and activated?

Instruction for Coding/Data Entry:
- Not Applicable: The event is in a non-public setting, or a cardiac arrest is not indicated.
- Unknown: It is unknown to the QI if an AED was used.
- Yes: An AED was used.
- No: An AED was not used.
- Not Understandable: The QI is unable to determine this variable due to poor audio quality or a fragmented recording.

Field Value:
- Default: Not Applicable

Field Validation:
- None
Definition:
- Mark the timestamp at which the QI knows that an AED is available.

Instruction for Coding/Data Entry:
- NA: An AED was not available.
- U: It is unknown to the QI at which timestamp an AED is available.
- Input timestamp

Field Value:
- Default: NA:blank

Field Validation:
- Cannot remain blank:blank
Definition:
- Mark the timestamp at which the patient receives the first shock from the AED.

Description:
- The timestamp to first shock can be acquired by:
  - Listening closely to the recording as the AED loudly prompts all individuals to back away from the patient just before delivering shocks.
  - Information given from the caller leading the QI to conclude the first shock had been delivered.

Instruction for Coding/Data Entry:
- NA: The AED did not deliver shocks to the patient.
- U: It is unknown to the QI at which timestamp the AED delivered its first shock.
- Input timestamp

Field Value:
- Default: NA:blank

Field Validation:
- Cannot remain blank:blank
Barriers To CPR

### BARRIERS TO CPR

<table>
<thead>
<tr>
<th>If CPR</th>
<th></th>
<th>Was</th>
<th>or</th>
<th>Was Not Given:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Delayed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Caller left the phone</td>
<td>☐ Dangerous Environment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Caller not with patient</td>
<td>☐ Unable to calm caller</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ CPR already in progress</td>
<td>☐ Difficult access to patient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>☐ Patient's status changed</td>
<td>☐ Language line use</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>☐ Refused CPR instructions</td>
<td>☐ Language Barrier</td>
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<td>Why were CPR instructions refused</td>
<td>CPR not indicated</td>
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<td></td>
</tr>
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<td>Obviously dead</td>
</tr>
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<td></td>
<td>Dispatcher didn't recognize need for CPR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Unable to get patient to hard, flat surface</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Caller physically unable to perform CPR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Caller hung up phone</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Other, explain:</td>
</tr>
</tbody>
</table>

- NA
- Afraid to hurt patient
- Didn't think CPR was needed
- DNR
- Trained rescuer was present
- CPR already in progress
- Patient suspected dead
Caller left the phone

Definition:
- CPR was delayed or not given due to the caller leaving the phone, thereby ceasing communication with dispatch.

Description:
- The caller has left the phone when dispatch maintains an open telephone connection with the caller but cannot communicate as the caller has left or walked away from the phone.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Caller not with patient

Definition:
- CPR was delayed or not given due to the caller not being in close enough proximity to assess the patient’s status or attempt CPR.

Description:
- Many different circumstances may arise where the caller is not in close enough proximity to the patient to establish status or attempt CPR.
- ‘Close enough proximity’ may be defined as any distance preventing the caller from assessing the patient’s status or attempting CPR.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
CPR already in progress

Definition:
- CPR was not given during the call due to CPR already being in progress.

Description:
- CPR is considered to be in progress when CPR is reported to have begun before the call is placed and CPR is still being performed.
- If CPR is found to already be in progress, it can be concluded that CPR was not started during the call. Therefore, the ‘Was Not Given’ checkbox is checked along with ‘CPR already in progress’.

Instruction for Coding/Data Entry:
- Check box if CPR was not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Patient’s status changed

Definition:
- CPR was delayed or not given due to the patient’s status changing.

Description:
- See variable Patient Status Change? in Patient section.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Refused CPR instructions

Definition:
- CPR was delayed or not given due to the caller refusing CPR instructions from the dispatcher.

Description:
- The bystander has refused CPR instruction when they decline the directive or request to receive instruction for CPR or to perform CPR at least once during the call.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.
- Then highlight the reason(s) the caller refused CPR instructions.

Field Value:
- Default: Unchecked

Field Validation:
- None
Why were CPR instructions refused

Definition:
- Given that the caller refused CPR instruction or to attempt CPR, what was the reason(s) concluded?

Description:
- The following reasons include:
  - **NA** – Instruction is not present or refused.
  - **Afraid to hurt patient** – Caller/rescuer claims one or more CPR procedure will hurt the patient.
  - **Didn’t think CPR was needed** – Caller/rescuer insists CPR is not needed for the patient.
  - **DNR** – A ‘Do Not Resuscitate’ order is present or respected as such.
  - **Trained rescuer was present** – Caller claims there is a more qualified rescuer present.
  - **CPR already in progress** – CPR is already in progress at the time of refusal.
  - **Patient suspected dead** – Rescuer believes the patient to be dead.
  - **Obvious death** – signs of rigor and/or cold body temperature is described with refusal of CPR instruction.
  - **** Other **** – There are no analogous reasons provided in this list. Check the ‘Other’ checkbox in this section and very briefly describe the reason for refusal in field provided.

Instruction for Coding/Data Entry:
- Highlight all reasons that apply.
- To select multiple reasons hold the command key while selecting the provided responses.

Field Value:
- Default: NA

Field Validation:
- If ‘Refused CPR instruction’ field is checked, at least one reason must be highlighted other than NA.
Dangerous environment

Definition:
- CPR was delayed or not given due to the patient’s location being too dangerous for bystander access.

Description:
- The most common environments where this barrier occurs are street intersections after auto collisions, highways/freeways, and busy roads.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Unable to calm caller

Definition:
- Effective communication or actions are hindered because the caller is unable to be calmed or focused on tasks/questions, delaying or preventing CPR.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Difficult access to patient

Definition:
- CPR was delayed or not given due to difficult access to the patient’s location.

Description:
- Examples of difficult access to the patient include, but are not limited to, when the patient is:
  - Inside of a car.
  - Stuck inside of a pool
  - Stuck inside of a bathtub
  - Considerably far from the caller when communicating with dispatch.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Language line use

Definition:
- CPR was delayed or not given due to the use of an interpreter.

Description:
- Language Line is an interpreting service that provides a dispatcher the ability to effectively communicate with the caller when there is language barrier. However, there can be a lag in communication as it is interpreted that may cause delays to initiating CPR.
- It is important to note when the need for an interpreter becomes a barrier to CPR.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Language Barrier

Definition:
- CPR was delayed or not given due to the lack of a common language between caller and dispatcher.

Description:
- A language barrier may be present when, but not limited to:
  - The dispatcher does not understand the caller’s language or lack of fluent English.
  - The accent of the caller challenges the dispatcher’s understanding.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Definition:
- CPR was delayed or not given due to CPR not being indicated.

Description:
- CPR is not indicated when the patient is found to be conscious and/or breathing normally.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Obvious dead

Definition:
- CPR was delayed or not given due to the patient concluded obviously dead.

Description:
- Obviously dead is considered to be when the patient exhibits signs of death. Signs of death include, but are not limited to:
  - Cold to the touch
  - Stiff
- CPR is considered ineffective and not needed when the patient is obviously dead.
- For further descriptions of signs of death, see rigor-, livor-, pallor-, algor mortis.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Dispatch didn’t recognize the need for CPR

Definition:
- CPR was delayed or not given due to the dispatcher did not recognize the patient’s need for CPR.

Description:
- Dispatch does not recognize the need for CPR when it is reported or concluded that the patient is not breathing normally and is unconscious/nonresponsive.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Unable to get the patient to a hard, flat surface

Definition:
- CPR was delayed or not given due to the bystander(s) is unable to get the patient to a hard, flat surface.

Description:
- The floor is ubiquitously used referring to a hard, flat surface.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Caller physically unable to perform CPR

Definition:
- CPR was delayed or not given due to the caller/rescuer is physically unable to perform CPR.

Description:
- This variable is specific to the caller/rescuer’s physical inability to perform CPR, not weather or not the patient’s size or location was a barrier to initiating CPR.
- The caller/rescuer is physically unable to perform CPR if the caller/rescuer reports themself as such.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Caller hung up phone

Definition:
- CPR was delayed or not given due to the caller hanging up the phone during the call.

Description:
- A caller has hung up the phone if the telecommunication line is lost between dispatch and the caller.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.

Field Value:
- Default: Unchecked

Field Validation:
- None
Definition:
- This field is to describe a barrier not listed in the barrier section that delayed or prevented CPR.

Instruction for Coding/Data Entry:
- Check box if CPR was delayed or not given due to this variable.
- Briefly describe the delay in the text field provided.

Field Value:
- Default: Unchecked

Field Validation:
- None
<table>
<thead>
<tr>
<th>Coaching or comments for dispatcher</th>
<th>Research comments</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>incomplete</td>
</tr>
</tbody>
</table>

Comments
Coaching or comments for dispatcher:

Definition:
- Are there any opportunities for growth or highlights of successful instruction the QI sees fit to point out?

Instruction for Coding/Data Entry:
- Briefly note coaching or comments in text field provided.

Field Value:
- Default: blank

Field Validation:
- None
Definition:
1. Did the dispatcher inquire if the patient is “breathing” or “breathing normally”?
2. Are there any comments pertaining to the collection of data the QI sees fit to point out? Was there a unique event or attribute in this incident that merits a distinction among others?

Description:
- This field ascertains 1) whether the dispatcher utilizes ‘breathing’ or ‘breathing normally’ to establish the patient’s breathing status and 2) QI research comments if prudent.

Instruction for Coding/Data Entry:
- Using only capital letters, enter on the first line:
  - B: Dispatcher inquired if the patient is “breathing”.
  - BN: At any point during the call, the dispatcher inquired if the patient is “breathing normally”
- Briefly note research comments in the text field provided.

Field Value:
- Default: blank

Field Validation:
- None
Status

Definition:
- Is the form complete for registry in the database?

Description:
- If the form is submitted with a kickback for incompleteness, the form defaults to ‘Incomplete’ and must be coded as ‘Complete’ when the QI is ready to submit to the database.

Instruction for Coding/Data Entry:
- Incomplete: The QI is not finish completing the form.
- Complete: The QI is finish completing the form.

Field Value:
- Default: Incomplete

Field Validation:
- None
Terms of Interest

Terms defined in the context of this collection.

AED (Automated External Defibrillator): An AED is a portable device that assesses the heart rhythm of the patient and can administer shocks in an attempt to restore a normal heart rhythm.

Agonal Respiration: Agonal respirations originate from lower brainstem neurons as higher centers become increasingly hypoxic during cardiac arrest. No single layperson descriptor consistently identifies agonal respirations; rather, laypersons use a collection of terms to describe the abnormal breathing of agonal respirations. Animal studies demonstrate that agonal respirations can produce clinically important ventilation, oxygenation, and circulation. 

Caller-reported or QI-identified breathing descriptions that are considered agonal include, but are not limited to:

- Gasping
- Gurgling
- Gargling
- Snoring
- Snorting
- Shallow breathing
- Humming
- Moaning
- Groaning
- Breathing every once and awhile
- Heavy
- Labored

Apple QuickTime window:

Bystander: Bystanders are individuals in close proximity to the patient and may be in a position to administer emergency medical needs to the patient, such as chest compressions or CPR.

Call vs. Recording: The recording’s parameters span the entirety of the .wav file corresponding to the incident number. The call’s scope within the recording is the time at which the dispatcher first addresses the caller to the ending of the call, by either the caller or dispatch, or the end of the recording (which ever comes first).

Caller: The individual who places a phone call for emergency services and telecommunicates with dispatch in regards to an emergency and/or the patient.

Code Document: The .doc file within each folder pertaining to the month and year of the incident number. The Code Document holds the incident number, city and address the incident occurred, the nature of the incident, response agency, and the time the call was entered, EMS dispatched, and time the incident was closed.

Dispatch/dispatcher: A dispatcher is the call taker from an Emergency Medical Dispatch agency (in this collection, the Fire Department) tasked with matching the responses of the caller to the needs of the patient.

DNR (Do Not Resuscitate): A do-not-resuscitate order, or DNR, is a medical order written by a doctor. It instructs health care providers not to do cardiopulmonary resuscitation (CPR) if breathing stops or if the heart stops beating (nih.gov). EMS is bound by law to administer the life-saving medical needs of the patient unless this document is physically present with the patient.

EMS (Emergency Medical Services):

ICD (Implantable Cardioverter Defibrillator): An ICD is a device implanted into the chest or abdomen and is used to treat irregular heartbeats (arrhythmias). The ICD uses electrical pulses to help regulate the heartbeat during an arrhythmia and will defibrillate in the case of a cardiac arrest.
**Layperson:** A person who is not a member of the EMS/police/medical profession.

**QI (Quality Improvement):** The QI is the person reviewing the 9-1-1 calls.

**Rescuer:** The individual performing, or attempting to perform, the emergency medical needs of the patient (i.e. CPR, compressions, rescue breaths, etc).

**Review Form:** The web page the QI reviews each recording with the applicable criteria in mind.

**Rigor mortis:** Stiffening of the body and limbs suggesting death has occurred at least a few hours ago (rigidity of death).

**Patient:** the person in need of emergency medical attention and the subject of the recording/call.

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